

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

**RESEARCH FRONTIERS  
INCORPORATED,**

**Plaintiff,**

**v.**

**E INK CORPORATION;  
E INK HOLDINGS INC. (f/k/a PRIME  
VIEW INTERNATIONAL CO., LTD.);  
AMAZON.COM, INC.;  
SONY ELECTRONICS INC.;  
SONY CORPORATION;  
BARNES & NOBLE, INC.; and  
BARNESANDNOBLE.COM LLC,  
Defendants.**

**Case No.**

**JURY TRIAL DEMANDED**

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**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Research Frontiers Incorporated complains of Defendants – E Ink Corporation; E Ink Holdings Inc. (f/k/a Prime View International Co., Ltd.); Amazon.com, Inc.; Sony Electronics Inc.; Sony Corporation; Barnes & Noble, Inc.; and Barnesandnoble.com LLC – upon Plaintiff’s information and belief as follows:

**NATURE OF LAWSUIT**

1. This is a claim for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code.

**THE PARTIES**

2. Research Frontiers Incorporated (“Research Frontiers”) is a corporation organized and existing under the laws of the State of Delaware and has a principal place of business located at 240 Crossways Park Drive, Woodbury, New York, 11797.

3. Founded in 1965, Research Frontiers is a company dedicated to spurring innovation with laboratories and research facilities that are used to explore and develop new

technologies and bring them to the public. Since its inception, Research Frontiers has been working exclusively on suspended particle device (“SPD”) light control technology.

4. Research Frontiers has invested approximately \$90 million to develop its innovative technologies. The fruit of Research Frontiers’ labors have resulted in approximately 290 issued patents, many of which are essential to the electro-optical field. Additionally, Research Frontiers has licensed its intellectual property to more than 40 major companies throughout the world, including many of the world’s leading chemical and glass companies.

5. Research Frontiers is the named assignee of, owns all right, title and interest in, and has standing to sue for infringement of United States Patent No. 6,606,185, entitled “SPD Films and Light Valves Comprising Liquid Suspensions of Heat-Reflective Particles of Mixed Metal Oxides and Methods of Making Such Particles,” which issued on August 12, 2003 (“the ‘185 Patent”) (a true and correct copy is attached as Exhibit A) and United States Patent No. 5,463,491, entitled “Light Valve Employing a Film Comprising an Encapsulated Liquid Suspension, and Method of Making Such Film,” which issued on October 31, 1995 (“the ‘491 Patent”) (a true and correct copy is attached as Exhibit B) (collectively, the “Patents-in-Suit”).

6. With respect to the Patents-in-Suit, and to the extent required by law, Research Frontiers has complied with the provisions of 35 U.S.C. § 287.

7. Defendant E Ink Corporation (“E Ink Delaware”) is a corporation organized and existing under the laws of the State of Delaware and has a principal place of business located at 733 Concord Avenue, Cambridge, Massachusetts 02138.

8. E Ink Delaware claims to be the world’s largest supplier of displays to the eBook industry. E Ink Delaware claims that products made with E Ink’s electronic paper displays (“EPDs”) possess attributes that enable new advancements in the mobile electronics market.

9. E Ink Delaware offers two paths for product designers looking to work with its product: purchasing Ink Film as a component, or purchasing module systems (collectively, the “E Ink Products”).

10. E Ink Delaware designs, manufactures, markets, sells and/or offers for sale the E Ink Products (including products identified as E Ink Pearl Monochrome Active Matrix Imaging Film and E Ink Triton Color Active Matrix Imaging Film) throughout the world and in the United States, including this judicial district.

11. E Ink Delaware may be served with process through its registered agent in Delaware – The Corporation Trust Company located at Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801.

12. Defendant E Ink Holdings Inc. (f/k/a Prime View International Co., Ltd.) (“E Ink Taiwan”) is a corporation organized and existing under the laws of Taiwan and has a principal place of business located at No. 3, Li-Hsin Road 1, Hsinchu Science Park, Hsinchu 300, Taiwan, Republic of China.

13. E Ink Taiwan further manufactures and/or assembles EPDs with E Ink Products in Asia. Those EPDs are then integrated with eReaders/eBooks and exported to the United States through established distribution channels for sale to consumers – including by Defendants Amazon.com, Inc.; Sony Electronics Inc.; Sony Corporation; Barnes & Noble, Inc.; and Barnesandnoble.com LLC – throughout the United States and this judicial district.

14. E Ink Delaware is a United States subsidiary of E Ink Taiwan. E Ink Delaware and E Ink Taiwan are collectively referred to herein as “E Ink”.

15. Joinder of Defendants E Ink Delaware and E Ink Taiwan in this action is proper under 35 U.S.C. § 299. Defendant E Ink Taiwan is the parent corporation of Defendant E Ink

Delaware and both are jointly, severally or in the alternative liable with respect to the same transactions, occurrences or series of occurrences relating to the making, using, importing into the United States, offering for sale, or selling of the same accused E Ink Products. Alternatively, Defendants E Ink Taiwan and E Ink Delaware are properly joined based on the question of fact and law common to all Defendants that will arise in this action.

16. Defendant Amazon.com, Inc. (“Amazon”) is a corporation organized and existing under the laws of the State of Delaware and has a principal place of business located at 410 Terry Avenue North, Seattle, Washington 98109.

17. Amazon may be served with process through its registered agent in Delaware – Corporation Service Company located at 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808.

18. Amazon has manufactured, used, imported, sold and/or offered for sale devices that incorporate EPDs with E Ink Products including, but not limited to, the Amazon Kindle (including at least the Amazon Kindle 1st Generation and the Amazon Kindle 2nd Generation), the Amazon Kindle DX, the Amazon Kindle 3G, the Amazon Kindle Touch, the Amazon Kindle Keyboard, the Amazon Kindle Paperwhite and other eReader/eBook devices that incorporate EPDs with E Ink Products (“Amazon EPD Devices”). Amazon’s conduct has occurred throughout the United States, including this judicial district.

19. Defendant Sony Electronics Inc. (“Sony Delaware”) is a corporation organized and existing under the laws of the State of Delaware and has a principal place of business located at 16530 Via Esprillo, San Diego, California 92127.

20. Sony Delaware may be served with process through its registered agent in Delaware – Corporation Service Company located at 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808.

21. Defendant Sony Corporation (“Sony Japan”) is a corporation organized and existing under the laws of Japan and has a principal place of business located at 7-1, Konan 1-Chome, Minato-Ku, Tokyo 108-0075 Japan.

22. Sony Delaware is a United States subsidiary of Sony Japan. Sony Delaware and Sony Japan are collectively referred to herein as “Sony”.

23. Sony has manufactured, used, imported, sold and/or offered for sale devices that incorporate EPDs with E Ink Products including, but not limited to, the Sony Reader (including at least model numbers PRS-T1 and PRS-T2), the Sony Reader Daily Edition (including at least model numbers PRS-900 and PRS-950), the Sony Portable Reader System (including at least model numbers PRS-500, PRS-505 and PRS-700), the Sony Reader Touch Edition (including at least model numbers PRS-600 and PRS-650), the Sony Reader Pocket Edition (including at least model numbers PRS-300 and PRS-350), the Sony Reader Digital Book and other eReader/eBook devices that incorporate EPDs with E Ink Products (“Sony EPD Devices”). Sony’s conduct has occurred throughout the United States, including this judicial district.

24. Barnes & Noble, Inc. (“B&N”) is a corporation organized and existing under the laws of the State of Delaware and has a principal place of business located at 122 Fifth Avenue, New York, New York 10011.

25. B&N may be served with process through its registered agent in Delaware – Capitol Services, Inc. located at 1675 South State Street, Suite B, Dover, Delaware 19901.

26. Barnesandnoble.com LLC (“Barnesandnoble.com”) is a limited liability company organized and existing under the laws of the State of Delaware and has a principal place of business located at 76 Ninth Avenue, New York, New York 10011.

27. Barnesandnoble.com may be served with process through its registered agent in Delaware – Capitol Services, Inc. located at 1675 South State Street, Suite B, Dover, Delaware 19901.

28. Barnesandnoble.com is a domestic subsidiary of B&N. B&N and Barnesandnoble.com are collectively referred to herein as “Barnes & Noble”.

29. Barnes & Noble has manufactured, used, imported, sold and/or offered for sale devices that incorporate EPDs with E Ink Products including, but not limited to, the Barnes & Noble Nook, the Barnes & Noble Nook Simple Touch, the Barnes & Noble Nook Simple Touch with GlowLight and other eReader/eBook devices that incorporate EPDs with E Ink Products (“Barnes & Noble EPD Devices”). Barnes & Noble’s conduct has occurred throughout the United States, including this judicial district.

30. Joinder of Defendants Amazon, Sony and Barnes & Noble in this action is proper under 35 U.S.C. § 299. Defendants Amazon, Sony and Barnes & Noble are jointly, severally or in the alternative liable with respect to the same transactions, occurrences or series of occurrences relating to the using, importing into the United States, offering for sale, or selling of the same accused E Ink Products embedded in their respective EPD Devices. Alternatively, Defendants Amazon, Sony and Barnes & Noble are properly joined based on the questions of fact and law common to all Defendants that will arise in this action.

## **JURISDICTION AND VENUE**

31. This Court has exclusive jurisdiction over the subject matter of the Complaint under 28 U.S.C. §§ 1331 and 1338(a).

32. As set forth above, this Court has personal jurisdiction over each Defendant based on each Defendant's organization under the laws of the State of Delaware and/or each Defendant's actions of infringement occurring in this judicial district.

33. Venue in this judicial district is proper under 28 U.S.C. §§ 1391(b), (c), (d) and/or 1400(b).

## **COUNT I – PATENT INFRINGEMENT UNITED STATES PATENT NO. 6,606,185**

34. Research Frontiers realleges and incorporates by reference paragraphs 1 through 33, inclusive, as though fully set forth herein.

### **The E Ink Products and EPDs With E Ink Products**

35. E Ink directly infringes at least independent claim 1 of the '185 Patent through the manufacture, use, offer for sale, sale and/or importation of E Ink Products and/or EPDs with E Ink Products. E Ink's infringing conduct has occurred and continues to occur throughout the United States, including this judicial district.

36. The E Ink Products (including E Ink Products incorporated into EPDs) comprise a cell formed of opposed cell walls.

37. The E Ink Products (including E Ink Products incorporated into EPDs) comprise a light modulating unit.

38. The E Ink Products (including E Ink Products incorporated into EPDs) comprise a suspension containing anisometrically shaped particles.

39. The E Ink Products (including E Ink Products incorporated into EPDs) comprise a heat-reflective mixed metal oxide suspended in a liquid suspending medium between said cell walls.

40. The E Ink Products (including E Ink Products incorporated into EPDs) comprise opposed electrodes operatively associated with the cell walls for applying an electrical field across the suspension.

41. The E Ink Products (including E Ink Products incorporated into EPDs) comprise particles that have an average length in a range between about 1 micron and about 50 nanometers.

42. E Ink's infringement of the '185 Patent has injured and will continue to injure Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

#### The Amazon EPD Devices

43. Amazon directly infringes at least independent claim 1 of the '185 Patent through the manufacture, use, offer for sale, sale and/or importation of the Amazon EPD Devices. Amazon's infringing conduct has occurred and continues to occur throughout the United States, including in this judicial district.

44. The Amazon EPD Devices include E Ink Products, which comprise a cell formed of opposed cell walls.

45. The Amazon EPD Devices include E Ink Products, which comprise a light modulating unit.

46. The Amazon EPD Devices include E Ink Products, which comprise a suspension containing anisometrically shaped particles.



47. The Amazon EPD Devices include E Ink Products, which comprise a heat-reflective mixed metal oxide suspended in a liquid suspending medium between said cell walls.

48. The Amazon EPD Devices include E Ink Products, which comprise opposed electrodes operatively associated with the cell walls for applying an electrical field across the suspension.

49. The Amazon EPD Devices include E Ink Products, which comprise particles that have an average length in a range between about 1 micron and about 50 nanometers.

50. Amazon's infringement of the '185 Patent has injured and will continue to injure Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

#### The Sony EPD Devices

51. Sony directly infringes at least independent claim 1 of the '185 Patent through the manufacture, use, offer for sale, sale and/or importation of the Sony EPD Devices. Sony's infringing conduct has occurred and continues to occur throughout the United States, including in this judicial district.

52. The Sony EPD Devices include E Ink Products, which comprise a cell formed of opposed cell walls.

53. The Sony EPD Devices include E Ink Products, which comprise a light modulating unit.

54. The Sony EPD Devices include E Ink Products, which comprise a suspension containing anisometrically shaped particles.

55. The Sony EPD Devices include E Ink Products, which comprise a heat-reflective mixed metal oxide suspended in a liquid suspending medium between said cell walls.

56. The Sony EPD Devices include E Ink Products, which comprise opposed electrodes operatively associated with the cell walls for applying an electrical field across the suspension.

57. The Sony EPD Devices include E Ink Products, which comprise particles that have an average length in a range between about 1 micron and about 50 nanometers.

58. Sony's infringement of the '185 Patent has injured and continues to injure Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

The Barnes & Noble EPD Devices

59. Barnes & Noble directly infringes at least independent claim 1 of the '185 Patent through the manufacture, use, offer for sale, sale and/or importation of the Barnes & Noble EPD Devices. Barnes & Noble's infringing conduct has occurred and continues to occur throughout the United States, including this judicial district.

60. The Barnes & Noble EPD Devices include E Ink Products, which comprise a cell formed of opposed cell walls.

61. The Barnes & Noble EPD Devices include E Ink Products, which comprise a light modulating unit.

62. The Barnes & Noble EPD Devices include E Ink Products, which comprise a suspension containing anisometrically shaped particles.

63. The Barnes & Noble EPD Devices include E Ink Products, which comprise a heat-reflective mixed metal oxide suspended in a liquid suspending medium between said cell walls.

64. The Barnes & Noble EPD Devices include E Ink Products, which comprise opposed electrodes operatively associated with the cell walls for applying an electrical field across the suspension.

65. The Barnes & Noble EPD Devices include E Ink Products, which comprise particles that have an average length in a range between about 1 micron and about 50 nanometers.

66. Barnes & Noble's infringement of the '185 Patent has injured and will continue to injure Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

**COUNT II – PATENT INFRINGEMENT**  
**UNITED STATES PATENT NO. 5,463,491**

67. Research Frontiers realleges and incorporates by reference paragraphs 1 through 33, inclusive, as though fully set forth herein.

The E Ink Products and EPDs With E Ink Products

68. E Ink has directly infringed at least independent claim 1 of the '491 Patent through the manufacture, use, offer for sale, sale and/or importation of the E Ink Products and/or EPDs with E Ink Products. E Ink's infringing conduct has occurred throughout the United States, including this judicial district.

69. The E Ink Products (including E Ink Products incorporated into EPDs) include a film suitable for use as the light-modulating unit of a light valve.

70. The E Ink Products (including E Ink Products incorporated into EPDs) comprise a cross-linked polymer matrix having droplets of a liquid light valve suspension distributed in and in direct contact with the cross-linked polymer matrix, said liquid light valve suspension comprising organic particles suspended in a liquid suspending medium.

71. E Ink's infringement of the '491 Patent has injured Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

72. E Ink has been aware of the '491 Patent and the likelihood of infringement thereof since at least as early as May 21, 2002, the issuance date of United States Patent No. 6,392,786 (assigned to E Ink Corporation during prosecution), which cited the '491 Patent as a prior art reference.

73. Accordingly, E Ink's infringement of the '491 Patent has been willful and with disregard for Research Frontiers' patent rights.

#### The Amazon EPD Devices

74. Amazon has directly infringed at least independent claim 1 of the '491 Patent through the manufacture, use, offer for sale, sale and/or importation of the Amazon EPD Devices. Amazon's infringing conduct has occurred throughout the United States, including this judicial district.

75. The Amazon EPD Devices include E Ink Products, which include a film suitable for use as the light-modulating unit of a light valve.

76. The Amazon EPD Devices include E Ink Products, which comprise a cross-linked polymer matrix having droplets of a liquid light valve suspension distributed in and in direct contact with the cross-linked polymer matrix, said liquid light valve suspension comprising organic particles suspended in a liquid suspending medium.

77. Amazon's infringement of the '491 Patent has injured Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

The Sony EPD Devices

78. Sony has directly infringed at least independent claim 1 of the '491 Patent through the manufacture, use, offer for sale, sale and/or importation of the Sony EPD Devices. Sony's infringing conduct has occurred throughout the United States, including this judicial district.

79. The Sony EPD Devices include E Ink Products, which include a film suitable for use as the light-modulating unit of a light valve.

80. The Sony EPD Devices include E Ink Products, which comprise a cross-linked polymer matrix having droplets of a liquid light valve suspension distributed in and in direct contact with the cross-linked polymer matrix, said liquid light valve suspension comprising organic particles suspended in a liquid suspending medium.

81. Sony's infringement of the '491 Patent has injured Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

The Barnes & Noble EPD Devices

82. Barnes & Noble has directly infringed at least independent claim 1 of the '491 Patent through the manufacture, use, offer for sale, sale and/or importation of the Barnes & Noble EPD Devices. Barnes & Noble's infringing conduct has occurred throughout the United States, including this judicial district.

83. The Barnes & Noble EPD Devices include E Ink Products, which include a film suitable for use as the light-modulating unit of a light valve.

84. The Barnes & Noble EPD Devices include E Ink Products, which comprise a cross-linked polymer matrix having droplets of a liquid light valve suspension distributed in and

in direct contact with the cross-linked polymer matrix, said liquid light valve suspension comprising organic particles suspended in a liquid suspending medium.

85. Barnes & Noble's infringement of the '491 Patent has injured Research Frontiers and, thus, Research Frontiers is entitled to recover damages adequate to compensate for the infringement, which in no event shall be less than a reasonable royalty.

#### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff Research Frontiers respectfully requests the Court to enter judgment against Defendants – jointly, severally, or alternatively – and against their respective subsidiaries, successors, parents, affiliates, officers, directors, agents, servants, employees, and all persons in active concert or participation with them, granting the following relief:

- A. The entry of judgment in favor of Plaintiff and against each Defendant;
- B. An award of damages against each Defendant adequate to make Plaintiff whole for each Defendant's separate infringement that has occurred, but in no event less than a reasonable royalty as permitted by 35 U.S.C. § 284, together with prejudgment interest from the date the infringement began;
- C. A finding that this case is exceptional and an award to Plaintiff of its reasonable attorneys' fees and costs as provided by 35 U.S.C. § 285;
- D. A permanent injunction prohibiting further infringement of the '185 Patent; and
- E. Such other relief to which Plaintiff is entitled under the law and any other and further relief that this Court or a jury may deem just and proper.

#### **JURY DEMAND**

Plaintiff demands a trial by jury on all issues so triable.

Dated: July 12, 2013

*Of Counsel:*

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